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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,882	11/13/2003	Takayuki Yamada	60188-683	6114

7590 10/20/2005
McDermott, Will & Emery
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EXAMINER

DEO, DUY VU NGUYEN

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/705,882

Applicant(s)

YAMADA ET AL.

Examiner

DuyVu n. Deo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/225,162.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/13/05, 2/9/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's cancellation of claims 1-9 in the transmitter letter filed 11/13/03 is acknowledged.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10, 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Su et al. (US 5,208,472).

Su describes a transistor comprising : a gate insulating film 15, a first sidewall insulating films 19 on the side surfaces of the gate electrode 16, a lightly doped regions 17 and 18 (claimed low concentration impurity regions) underneath the first sidewall insulating film 19; source/drain regions 12 and 13 (claimed high concentration impurity regions) outside of the gate electrode and adjoining to the lightly doped regions; second sidewall insulating films 22 on the portions of the source/drain regions located in proximity to the lightly doped regions and on the side surfaces of the first insulating films; metal silicide layers 25 on the gate electrode, source/drain regions except for their portions located underneath the second insulating films (figs. 2-6; col. 4, line 31-50; col. 4, line 67-col. 5, line 50).

Referring to claim 11, fig. 6 shows the metal silicide 24 is discontinuously provided on the source/drain regions.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Su as applied to claim 10 above, and further in view of Hunter (US 4,356,623).

Unlike claimed invention, Su doesn't describe the depth of the source/drain regions (high concentration impurity regions) are deeper than the depth of the portions of the source/drain regions located underneath the second sidewall insulating films. Hunter a transistor wherein portions of source/drain regions are deeper than the depth of portions of the source/drain regions located underneath second sidewall insulating films (fig. 6; col. 4, line 35-52; col. 7, line 45-55). It would have been obvious for one skilled in the art to modify Su's transistor in light of Hunter's teaching of portions of source/drain regions are deeper than the depth of portions of the source/drain regions located underneath second sidewall insulating films because he teaches that a deeper junctions would provide a lesser resistive losses and permit the making of reliable metal contacts (col. 10, line 1-24).

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Su as applied to claim 10 above, and further in view of Baumann (US 5,866,445).

Unlike claimed invention, Su doesn't describe the semiconductor device having another transistor having a thinner gate insulating film than the first gate insulating film. Such semiconductor structure is known to one skilled in the art as shown here by Baumann. Baumann

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teaches a semiconductor device, such as a CMOS having the gate insulating film of the PMOS is thinner than the gate insulating film of the NMOS (col. 2, line 49-56). One skilled in the art would find it obvious at the time of the invention to form a semiconductor device such as a CMOS, in light of Baumann, having the gate insulating film of the PMOS is thinner than the gate insulating film of the NMOS with a reasonable expectation of success.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DuyVu n. Deo whose telephone number is 571-272-1462. The examiner can normally be reached on 6:00-2:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Primary Examiner

Duy-Vu N. Deo

9/26/05

